

Literacy extension programs of higher education institution in the Philippines: insights from stakeholders

Matronillo Del Mundo Martin¹, Lhea dela Cruz Ildefonso²

¹College of Education, Ifugao State University, Ifugao, Philippines

²College of Advanced Education, Ifugao State University, Ifugao, Philippines

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ABSTRACT

This descriptive research investigates the impact of extension programs from a college of teacher education on public elementary school teachers. Three programs, literacy (n=75), Catch Me and Teach Me strategy literacy program (n=64), and campus journalism (n=48), were evaluated. Participants reported profound positive impact from these programs, considering them effective or very effective. The literacy program significantly improved reading and writing skills, fostered a love for learning, and benefitted the community. However, challenges like outdated materials and overemphasis on rote memorization need addressing. The Catch Me and Teach Me strategy literacy program excelled in practical teaching strategies and hands-on learning but required additional time and support, emphasizing the need for a more personalized approach. The campus journalism program was lauded for its informativeness but faced venue, food quality, time management issues, and a desire for more diverse topics. These findings stress the importance of customized professional development, long-term impact assessment, cultural sensitivity, and community involvement. Effective, engaging training methods, feedback, and efficient resource allocation are vital for program improvement. The research aims to enhance extension services' quality for the community's benefit, providing valuable guidance to improve these programs and cater to participants' diverse needs.

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Corresponding Author:

Matronillo Del Mundo Martin

College of Education, Ifugao State University

Potia, Alfonso Lista, Ifugao, Philippines

Email: matt_martin122680@yahoo.com

1. INTRODUCTION

Deep within communities often situated in remote, less urbanized areas, the existence of extension programs serves as vital means for nurturing growth and development in many facets of life. Community extension programs were initially conceived to bridge the gap between research-based knowledge and rural communities, fostering technology transfer, rural development, management skills, and non-formal education [1]. These programs, often initiated by higher education institutions (HEIs), pave the connection between academic institutions and the communities they serve. Research and extension programs are considered as the “heart of community engagement” [2]. Social disparities persist due to inadequate access to education and skills particularly in low- and middle-income countries. The consequence of this is dire: with individuals not gaining necessary skills for competitive employment or entrepreneurship. Due to this, the threefold function of HEIs in promoting community development--teaching, research, and outreach, takes on greater significance. Hence, the commission on higher education (CHED) in the Philippines has mandated HEIs to engage in educational and civic outreach to communities. This evolved into what is now known as

community extension programs, wherein educational institutions offer trainings and services to local residents, making their presence felt by the community [3]. Residents view university extension services as a strategic approach to enhancing outcomes and as a feasible means for advancing professional development [4]. Similarly, rural extension programs are tailored to the specific needs of community members and the prevailing market dynamics in a given region are what offers a sustainable solution to community problems [5]. Transitioning to the significance of community extension programs, it is imperative to recognize its role beyond merely as appendages for accreditation, but as ongoing programs for enduring impact, knowledge transfer, and community development [6]. Self-reported knowledge, wellness, behavioral change, and personal economic value exhibited significantly elevated levels as a direct result of such initiatives [7]. Beyond the successful execution of these extension activities, it is equally essential to evaluate the long-term impact and sustainability of these programs. Assessing the impacts of HEIs on sustainable development (SD) entails considering two fundamental dimensions: the extent to which they are integrative in nature, and the impacts of the programs whether they are directly (short-term effects) or indirectly (long-term effects) attributable [8]. Building on this thought, community feedback becomes appropriate avenue of evaluation [1].

However, there is no “one-size-fits-all” approach to effectively deliver these services as geographical location and socio-economic structures often cause barriers [9]. Extension programs and its implementation are not always found to be useful and effective. Initiatives involving environmental clean-up, tree planting, waste management, computer literacy, health services, and crime and drug prevention were unsatisfactory [10]. In the field of health-related extension programs, majority of female recipients of health extension services expressed low satisfaction [11]. It is then incumbent upon academic institutions to meticulously plan, monitor, and evaluate the outcomes of their community initiatives at the grassroots level, ensuring that extension programs contribute effectively to SD of communities [8], [12], [13]. The effectiveness of such programs is determined by their lasting impact and the continued application of the acquired knowledge in real-life. Thus, gathering grassroots data serves as a valuable guide for institutions in developing targeted extension programs that yield the highest societal value. Since there is no absolute measure that can assess the impact of community extension programs, one can deduce that disparities exist among published investigations on the effectiveness of extension programs as each is unique on its own objectives, location, and target recipients. In order to achieve desired outcomes, extension initiatives must be tailored to the needs, cultures, and socio-economic conditions of the target community [14].

In Ifugao State University-Potia Campus, among the extension programs by the College of Education are: i) Catch Me and Teach Me strategy literacy program; ii) campus journalism training; and iii) literacy extension program. Catch Me and Teach Me strategy literacy program extends the resources and expertise of the College of Education by facilitating young learners in the community to develop essential critical thinking and problem-solving abilities. Campus journalism, on the other hand, serves as an avenue for writers, teachers, and learners to share insights and foster exchange of knowledge and trends in campus journalism. Literacy extension concentrates on developing reading, writing, and overall English proficiency with the goal of preparing students not only for academic success but also for life-long learning. All these programs are manifestations of the university's commitment to the community through responsive extension programs targeted on their actual needs. It is for this reason that the impact of these extension programs must be assessed, with the intention of identifying any deficiencies and areas requiring improvement. The participants in this study are the recipients of the literacy and research-focused extension programs. ultimately, the goal of this research is to enhance the delivery of extension services of the college by ensuring they effectively and efficiently meet the needs of the community members.

2. METHOD

This study adopted a descriptive survey research design to investigate the effectiveness of an extension program in cooperating schools. The study focused on cooperating teachers who directly benefited from the extension training. These participants were drawn from the cooperating schools of Ifugao State University Potia Campus, covering both public and elementary schools in Alfonso Lista Districts 1 and 2. The primary data collection tool was a questionnaire, divided into two sections. The first section contained scale items designed to assess the impact of the extension program. The scale items underwent expert validation and pilot testing among 30 individuals with characteristics similar to the intended respondents. The computed Cronbach's reliability score was 0.785, affirming its internal consistency. The second section contained open-ended questions asking the participants to identify the strengths, weaknesses, and suggestions for improvement of the extension trainings. The data gathering involved asking permission from authorities, obtaining informed consent from the participants, distributing the questionnaires, and even retrieving training evaluation data from the extension trainers. Adequate time was provided for the teacher participants to complete the questionnaires, which were subsequently collected. The researcher took notes in some cases where participants gave their feedback verbally, particularly in terms of the strength, weaknesses, and

suggestions for improvement of the extension programs. Data organization, summarization, and tabulation were performed as part of the initial data processing.

The data were analyzed quantitatively and qualitatively. The analysis primarily involved calculating the mean score, which was interpreted as: very effective (4.50 to 5.00), effective (3.50 to 4.44), fairly effective (2.50 to 3.44), and not effective (1.00 to 2.44). The qualitative data was analyzed thematically to extract key themes, which focus on the strengths, weaknesses, and suggestions for improvement of the programs. The study adhered to ethical principles. Consent was obtained from the participating teachers before data collection. The study's objectives were transparently communicated to the relevant authorities. Ethical approval was obtained from the appropriate institutional review board. Data confidentiality and anonymity were ensured to protect the privacy of the participants. Researchers handled the data with discretion, and the results were presented in an aggregated and anonymous format to further safeguard participants' identities.

3. RESULTS AND DISCUSSION

3.1. Impact of the extension training program

The impact of the extension programs was measured quantitatively and qualitatively. The quantitative data are presented in Table 1. The teacher clients registered that the three programs are either effective or very effective in various aspects (Table 1). These include enhancing knowledge, skills, self-discipline, productivity and decision-making, self-esteem and confidence, connections and camaraderie, and awareness of duties and responsibilities. They attested that the programs had a profound impact on their lives.

Table 1. Teacher clients' assessment of the impact of the extension programs

Criteria	Catch Me & Teach Me strategy	Journalism	Literacy program
1. The program significantly improved skills relevant to the respective field.	3.75 ^E	4.69 ^V	4.78 ^V
2. Participation in the program positively influenced the development of self-discipline.	3.75 ^E	4.94 ^V	4.78 ^V
3. The program enhanced knowledge pertaining to the specific focus area of the program.	3.75 ^E	4.94 ^V	4.72 ^V
4. Engaging in the program facilitated productivity and informed decision-making within the respective field.	3.75 ^E	4.94 ^V	4.78 ^V
5. The program positively impacted self-esteem and confidence among participants.	3.75 ^E	4.81 ^V	4.78 ^V
6. The program helped in building connections and camaraderie with fellow participants.	3.50 ^E	4.94 ^V	4.75 ^V
7. The program effectively promoted the focus area (teaching, journalism, or literacy) within the respective setting.	4.50 ^V	4.94 ^V	4.84 ^V
8. The program raised awareness regarding rights, responsibilities, and duties related to the respective field.	4.00 ^V	5.00 ^V	4.78 ^V
9. The program had a profound impact on the lives of participants involved in the program.	3.75 ^E	5.00 ^V	4.66 ^V
10. The program provided valuable knowledge on legal aspects relevant to the respective field.	4.50 ^V	5.00 ^V	4.91 ^V
Overall	3.90 ^E	4.92 ^V	4.78 ^V

Notes. E: means effective; V: means very effective

According to the participants, the program of the College of Education highlighted the importance of the basic skills of the learners. This is manifested in the different extension activities of the college. Some of the cooperating teachers mentioned the significant contributions of the extension program in terms of literacy.

“As a teacher in the basic education, we need to focus the pivotal role of the basic skills of our learners. These will serve as a strong foundation of the learners to do the needed skills in terms of literacy.” (Cooperating Teacher 1)

As mentioned by the cooperating teacher, the College of Education extension program dovetails on the different activities to enhance skills of the learners in the basic education. This means that the varied activities to enhance skills of the learners about the basic skills would be provided. In addition, one of the participants pointed out that:

“We need to consider also the writing skills and numeracy skills of the learners specially this time. So, the college must focus on the activities on writing skills and solving word problems. This would probably help the learners master the skills in writing and mathematical perspectives.” (Cooperating Teacher 5)

It is notable to consider the varied activities of the learners in writing and mathematical activities. In the conducted extension activities, it should be balance that includes activities to intensify skills in mathematics and writing skills. Then, one of the participants pointed out the extension program conducted by the College of Education that, "*The program effectively promoted the focus area (teaching, journalism, or literacy) within the respective setting.*" This means that the extension literacy program is very effective in enhancing the skills of the learners in the basic education.

3.2. Strengths of literacy program

The strengths of the literacy program, as highlighted in Table 2, lie in its ability to significantly enhance reading and writing skills among learners. This improvement signifies the program's effectiveness in achieving its fundamental objectives. The program's engaging and enjoyable nature was acknowledged, demonstrating its success in instilling enthusiasm for learning and showcasing visible progress among the students. Furthermore, the program's individualized learning approach was recognized for addressing the unique needs of each child, ensuring a tailored and effective educational experience. Importantly, the program has successfully instilled a love for books and learning among the learners, leading to a transformation where they read for pleasure. In relation with this, one of the participants stressed out that:

"Literacy programs offered by Ifugao State University helped our learners to become a good reader. They extended a program to master the basic skills in the context of elementary education. I hope these programs should be maintained and sustained as one of the instruments to enhance skills of the learners." (Cooperating Teacher 8)

Additionally, the program's positive impact on the community was emphasized, portraying it as a valuable educational resource accessible to all, irrespective of their backgrounds. The ability to foster a culture of reading at home was also acknowledged as a strength, indicating the program's comprehensive approach to education. Indeed, the participants testified that the extension program related on literacy improved the skills of the learners in reading and instilling the love for reading.

"I have observed that our pupils improved their skills in reading and writing. They usually do reading during their free time and they enjoyed much in reading. The extension program of IFSU served as our partner to instill the value of reading and writing among our pupils." (Cooperating Teacher 7)

It is noteworthy to emphasize that the literacy program of the college is very substantial to enhance the literacy skills of the learners. This means that the program shall be sustained and continued. Indeed, the literacy program must be continued.

Table 2. Strengths of literacy program

Theme	Evidences
Improved reading and writing skills	Participants noted significant improvements in reading and writing abilities among the learners, showcasing the program's effectiveness.
Engaging and enjoyable	The literacy program was lauded for being engaging, enjoyable, and fun, promoting enthusiasm for learning and evident progress among the students.
Individualized learning approach	The program's strength in individualized learning was recognized, tailoring education to each child's needs and ensuring no one is left behind.
Instilling love for books and learning	The program was successful in fostering a love for books and learning in the learners, leading to them reading for pleasure and experiencing an amazing transformation.
Positive impact on community	The program received praise for being a valuable resource for educational development within the community, <u>enhancing access to quality education for all learners.</u>

3.3. Weaknesses of literacy program

However, the feedback also shed light on certain weaknesses within the literacy program as shown in Table 3. Outdated materials were identified as a hindrance to engagement, suggesting a need for regular updates to keep pace with evolving educational resources. The overemphasis on rote memorization and a demanding schedule, especially for young learners, were recognized as potential obstacles to a deeper understanding of the material and the well-being of the students. Moreover, the lack of active parental involvement, inadequate individualized attention for specific learning needs, inaccuracies in assessment methods, and insensitivity to diverse cultural backgrounds were identified as weaknesses. These issues highlight the importance of a more inclusive and personalized approach in the program.

“The materials to be provided for the program shall be updated and based from the level of the learners. It is very important to consider the Instructional Materials for literacy program. The college extension program may use contextualized Instructional Materials to be used during the conduct of the extension program.” (Cooperating Teacher 12)

The weaknesses of the program suggest some constructive ways to enhance the literacy program. Updating and improving learning materials, diversifying teaching methods, and providing a better balance between learning and relaxation are recommended to improve engagement and effectiveness. Actively involving parents and providing individualized support to students with specific learning needs are also advocated, emphasizing the need for a more tailored and inclusive approach. Enhancing cultural sensitivity in the program and improving the accuracy of assessment methods are deemed crucial for a more equitable and accurate learning experience.

Table 3. Weaknesses of the literacy program

Theme	Evidence
Outdated materials	Participants raised concerns about outdated program materials, suggesting it made it challenging for students to remain engaged during the learning process.
Overemphasis on rote memorization	The reliance on rote memorization was highlighted as a weakness, potentially hindering genuine understanding of the material among the learners.
Demanding schedule for young children	The program's demanding schedule was seen as a drawback, particularly for young children, leaving them with limited time for essential play and relaxation.
Lack of parental involvement	Participants expressed a desire for more active involvement of parents or guardians in the program, recognizing its importance in a child's educational success.
Lack of Individualized attention for specific needs	The absence of sufficient individualized attention for students with specific learning needs was seen as a shortfall, suggesting room for improvement.
Accuracy of assessment methods	Concerns were raised regarding the accuracy of the program's assessment methods, implying a need for a more precise evaluation of a child's progress.
Cultural sensitivity	The lack of cultural sensitivity in materials and teaching methods was highlighted as a weakness, potentially making students from diverse backgrounds feel left out or misunderstood.

3.4. Strengths of the Catch Me and Teach Me strategy literacy program

The strengths of the Catch Me and Teach Me strategy literacy program are rooted in its practical and interactive approach as shown in Table 4. Participants highly valued the practical teaching strategies and hands-on learning experiences shared during the training. The program's emphasis on practical techniques allowed participants to grasp effective ways to implement the program. Moreover, the interactive workshops and group activities were seen as invaluable components, providing a platform for collaboration and the exchange of ideas among peers. The comprehensive training materials and resources provided were also highlighted as a significant strength, aiding participants in their daily teaching and literacy promotion efforts. The expertise and knowledge of the trainers were acknowledged, affirming the trainers' ability to simplify complex concepts and facilitate effective learning. Most of the cooperating teachers agreed that this strategy is an avenue to enhance the abilities of the learners.

“Through Catch Me and Teach Me strategy literacy program our learners are enjoyed reading and writing activities through peer teaching. Certainly, reading with their peers fosters collaborative learning. It is also way to motivate a learner to love reading.” (Cooperating Teacher 18)

Table 4. Strengths of the Catch Me and Teach Me strategy literacy program

Theme	Evidence
Practical teaching strategies	Many participants found practical strategies and teaching techniques shared in the training extremely valuable.
Hands-on learning approach	The hands-on approach helped participants understand how to implement literacy programs effectively.
Interactive workshops and collaboration	Participants highlighted interactive workshops and group activities as valuable, appreciating the opportunity to collaborate and exchange ideas with peers.
Comprehensive training materials	The value of training materials and resources provided was emphasized, seen as beneficial for daily teaching and literacy promotion activities.
Expertise and knowledge of trainers	Participants acknowledged the expertise of the trainers and their ability to convey complex concepts in an understandable way.

Based from the statement of the cooperating teacher, it is very significant to employ cooperative learning strategies in reading. Indeed, through cooperative learning learners learn how to work with their peers. It is noteworthy to underscore the value of group activities and reading.

3.5. Weaknesses of the Catch Me and Teach Me strategy literacy program

Despite the strengths, participants also identified areas for improvement within the Catch Me and Teach Me strategy literacy program as shown in Table 5. The foremost concern was the need for additional time to delve deeper into the topics covered, indicating a desire for more comprehensive exploration. Participants emphasized the necessity for ongoing support to effectively apply the acquired knowledge in their teaching and literacy promotion endeavors. Moreover, a personalized approach that considers the individual differences of the learners was highlighted, suggesting the need for tailored strategies to meet diverse learning needs. Moreover, the program underscores some of the drawbacks and issues in conducting peer reading among (among) the learners. It is identified that:

“I have testified that our learners committed some difficulties in reading with their peers, they encountered difficulties on how to read the unfamiliar words and they read only without comprehension. So, it is important to monitor and give immediate feedbacks after reading.”
(Cooperating Teacher 17)

Hence, some ways are necessary to enhance future training sessions in Catch Me and Teach Me strategy literacy program or related topics. Extending the timeframe of the training to assess learners' improvement is recommended, emphasizing the importance of evaluating the long-term impact of the program on learners. Additionally, integrating critical thinking skills into program activities is suggested, reflecting an aspiration for a more holistic and skill-enriched learning experience.

Certainly, considering individual differences among learners and tailoring the approach accordingly are necessary. These would underline the significance of inclusivity and adaptability in future training sessions. The cooperating teachers agreed that time is inevitable in reading with the peers.

“Time management in reading with peers among learners raised an issue and conflict. The learners need support to master the needed skills as a basic foundation.” (Cooperating Teacher 15)

Table 5. Weaknesses of the Catch Me and Teach Me strategy literacy program

Theme	Evidence
Time constraints	Many participants felt that additional time is needed for a more in-depth exploration of the covered topics.
Need for ongoing support	Participants highlighted the need for ongoing support to effectively apply the knowledge gained from the program.
Personalization of approach	Some participants suggested a more personalized approach to meet the diverse needs of participants, considering individual differences.

3.6. Strengths of the campus journalism program

The thematic analysis of the extended campus journalism training feedback provides valuable insights into the overall impression of the seminar-workshop and areas for improvement as shown in Table 6. The strengths primarily lie in the informativeness, timeliness, and efficient management of the event. Participants praised the workshop for providing valuable insights, being relevant to current educational demands, and being well-organized, fostering a positive learning experience.

“Our learners are very interested in campus journalism. They have found joy and glee while doing different activities in writing news, features and editorial. Through journalism, our learners become more interested in developing paragraph and articles based from their field of interest.” (Cooperating Teacher 21)

Undeniably, the cooperating teachers established that through campus journalism program, the learners become more interested in writing and even in reporting. Moreover, one of the participants stressed:

“The extension training of the College of Education about campus journalism is very helpful. These workshops and hands-on training sessions cover a wide range of journalism topics, including writing, reporting, editing, conducting interviews, and ethical considerations. They assist participants in honing their abilities and comprehending the real-world applications of journalism.” (Cooperating Teacher 22)

Furthermore, seminars on journalism promote analysis and critical thinking. They instruct participants in information evaluation, how to separate opinions from facts, and how to offer fair and impartial opinions. In the modern media environment, where false information is widely disseminated, these abilities are crucial. Besides, campus journalism seminars provide an atmosphere that encourages students to freely express their ideas and opinions. They become aware of the responsibility that accompanies free speech as well as its significance.

Table 6. Strengths of the campus journalism program

Theme	Evidence
Informative	Participants found the seminar-workshop highly informative and enriching, adding value to their knowledge.
Timely	Participants appreciated the relevance and timeliness of the seminar-workshop content, aligning with current educational demands.
Well-managed	Participants praised the efficient management of the seminar-workshop, expressing satisfaction with the organized activities and looking forward to future sessions.

3.7. Weaknesses of the campus journalism program

However, there are identified weaknesses that need attention for future improvements as displayed in Table 7. Concerns regarding the venue size, acoustics, and suitability indicate the importance of choosing appropriate spaces that can accommodate all participants comfortably. Issues related to food quality and quantity highlight the necessity for better catering arrangements to ensure participant satisfaction. Time management was another aspect flagged for improvement, emphasizing the importance of adhering to schedules for each session to maintain a structured flow of the event. Additionally, participants expressed a desire for a broader range of topics to be covered, suggesting that incorporating more diverse and relevant subjects would enhance the learning experience. Thus, some suggestions for the improvement of the campus journalism program focus on enhancing the venue, food quality, and time management for future seminar-workshops. Incorporating additional relevant topics to enrich the content and broaden the scope of the event is crucial. These insights provide a valuable guide for organizers to enhance the quality and effectiveness of future campus journalism training sessions, ultimately maximizing the learning experience and meeting the needs of the participants.

Table 7. Weaknesses of the campus journalism program

Theme	Evidence
Venue	Participants expressed dissatisfaction with the venue's size and conditions, suggesting a need for a more spacious and suitable location.
Food	Participants raised concerns about the quality and quantity of the food provided, emphasizing the need for improved food arrangements.
Time management	Participants identified a lack of adherence to the scheduled time for each session, suggesting the importance of stricter time management.
Additional topics	Participants desired more diverse and relevant topics, suggesting the inclusion of supplementary content to enrich the seminar-workshop experience.

3.8. Discussion of the impact assessment of the extension programs conducted

This study embarked on a critical evaluation of community extension programs of Ifugao State University-Potia Campus, focusing on Catch Me and Teach Me strategy literacy program, campus journalism training, and literacy extension program. Emphasizing the pivotal role of these programs in enhancing skills, knowledge, and personal development among participants, our findings offer insightful revelations. They mirror the broader educational discourse on the efficacy of such initiatives in rural and less urbanized settings. This discussion aims to contextualize these results within the existing literature, drawing implications for theory, practice, and policy, and setting the stage for a comprehensive understanding of these educational interventions. The empirical evidence gathered from Ifugao State University-Potia Campus's community extension programs presents a multifaceted understanding of their impact. Central to our findings is the varying effectiveness of the programs: campus journalism training, and the literacy extension program. Each program exhibits distinct strengths and weaknesses, resonating with the nuanced perspectives regarding the role of community extension in rural development [1]. The variance in effectiveness underscores the premise emphasizing the need for tailoring extension programs to specific community needs and market dynamics [5]. The high effectiveness scores in enhancing skills, knowledge, and self-discipline particularly in the journalism and literacy programs align with assertion of the transformative power of such initiatives [2]. These programs evidently surpass being mere academic appendages, as they serve as conduits for real-world

skill application and personal development. This finding is consistent with the perspective who advocate for viewing extension programs as critical tools for sustainable community impact [2], [6].

However, the less effective scores in some aspects of the Catch me and Teach Me strategy program highlight a significant discrepancy. This echoes the concerns raised about the variable utility and efficacy of such programs [10]. It suggests that while the overall intent of the programs is beneficial, their execution may lack in addressing specific community needs or adapting to local contexts, a gap that identify as a barrier to effective service delivery [9]. The qualitative feedback points to a profound impact on participants' lives, particularly in terms of self-esteem and confidence enhancement. This aspect of personal growth, often overlooked in traditional academic settings, is crucial in non-formal education settings. The programs' ability to foster a sense of community, camaraderie, and professional development among participants observations about the extended benefits of university-level community extension programs [15]. The noted weaknesses, such as outdated materials and overemphasis on rote learning, resonate with the criticisms of [11] regarding the need for continuous improvement and relevance in extension services. These shortcomings highlight the critical need for dynamic curriculum development, aligning with contemporary educational standards and learner needs, a concept supported by Findler *et al.* [10] in their discussion on SD in higher education. Thereby, our findings paint a complex yet enlightening picture of the impact of community extension programs. They reaffirm the essential role of these programs in bridging educational gaps in rural areas while also highlighting the need for constant evolution and adaptation to the changing educational landscape. This study contributes to the ongoing dialogue on the effectiveness of university-led community outreach initiatives, underscoring the necessity for a nuanced and context-sensitive approach to program design and implementation.

3.8.1. Theoretical implications

The study's exploration into the efficacy of community extension programs at Ifugao State University-Potia Campus offers profound theoretical implications, particularly in the fields of educational outreach, community development, and non-formal education. The findings bridge the gap between theoretical constructs and practical applications, providing insights into how HEIs can effectively engage in community development. By assessing the impact of community extension initiatives, researchers may gain a better understanding of how educational institutions can actively contribute to knowledge transmission outside of typical classroom settings.

a. Extension programs as catalysts for community empowerment

The positive outcomes of the extension programs, especially in enhancing skills, knowledge, and self-discipline, resonate with the theoretical frameworks which emphasize education as a critical tool for empowerment in low- and middle-income countries [3]. This study reinforces the idea that community extension programs are not just educational endeavors but are potent vehicles for socio-economic upliftment and empowerment. The evident success of these programs in imparting practical skills and knowledge aligns with contemporary theories of adult learning and community education, which advocate for the practical application of knowledge and skills as a means to empower individuals and communities.

b. Integrating community needs and educational outreach

The variability in program effectiveness underscores the theoretical postulation by regarding the necessity of tailoring educational programs to the unique needs and dynamics of each community. This study empirically supports the theory that effective community development requires a bespoke approach, considering local socio-economic structures, cultural dynamics, and educational needs [5]. It challenges the one-size-fits-all paradigm in educational outreach, advocating for a more nuanced and contextualized approach [9].

c. Sustainable community development through education

The research aligns with the sustainable development theories particularly in how higher education institutions can contribute to sustainable development [8]. The study provides empirical evidence supporting the theory that education, particularly non-formal and community-based education, plays a pivotal role in sustainable community development. The extension programs' focus on skills and knowledge transfer, enhancing self-esteem, and fostering community ties reflects the integrative nature of sustainable development, where education is seen as a key driver in achieving long-term societal progress.

d. Reconceptualizing the role of higher education in society

The findings contribute to the theoretical discourse on the role of HEIs in society. The traditional tripartite function of teaching, research, and outreach is expanded upon, highlighting outreach not just as a peripheral activity but as a core function with significant societal impact. This aligns with the perspectives of

who posit the transformative potential of universities when they engage directly with their communities [6], [15]. The study thus adds to the growing body of literature that views universities as active agents of social change, challenging them to reassess and expand their roles beyond the confines of academia.

e. Long-term impact and evaluation of educational programs

The study contributes to the theoretical understanding of program evaluation in education. The highlighted need for ongoing assessment and improvement of these programs supports the theories around continuous improvement and adaptive learning in educational settings. It echoes the call for longitudinal studies and sustained impact assessments to truly gauge the effectiveness of educational interventions over time, a concept crucial in the realm of non-formal education and community development.

3.8.2. Practical implications for community extension programs

The findings from the study on community extension programs at Ifugao State University-Potia Campus offer critical insights into the practical application of such initiatives. These implications are vital for policymakers, educators, and community leaders aiming to optimize the effectiveness of extension programs in various socio-educational contexts. University community extension initiatives can help local communities by addressing specific needs, supporting sustainable practices, and facilitating social and economic growth.

a. Customization to local needs and contexts

One of the most salient practical implications of this study is the necessity for extension programs to be deeply rooted in the specific needs and contexts of their target communities. This aligns with the conclusions drawn that who emphasize the importance of tailoring extension initiatives to local market dynamics and community specifics [5]. For instance, the varying effectiveness across different programs in our study highlights the need for educational content and teaching methodologies to be adaptable and responsive to the unique socio-cultural and economic realities of the community. This approach not only ensures relevance but also enhances the engagement and retention of participants.

b. Integrating continuous feedback and evaluation

Another critical implication concerns the ongoing evaluation and feedback mechanisms in extension programs. SD through educational interventions requires continuous assessment. Regular program evaluations are essential to find any flaws in extension initiative and to make sure that these programs remain relevant and effective [16]. The noted weaknesses in some program aspects, such as outdated materials or ineffective teaching strategies, underscore the need for regular program evaluations [8]. This can be achieved through structured feedback mechanisms from participants, allowing for real-time adjustments and updates to the curriculum and delivery methods.

c. Enhancing participant engagement

The study underscores the importance of designing programs that are not only informative but also engaging and interactive. As seen in the qualitative feedback, programs that were interactive and hands-on were more effective in imparting knowledge and skills. This observation is in line with contemporary educational theories that advocate for experiential learning and active participation [6]. Programs should, therefore, incorporate practical activities, workshops, and collaborative projects to enhance learning outcomes.

d. Addressing resource and material relevance

The issue of outdated materials calls for an urgent need to periodically update educational resources. This is not just about keeping pace with technological advancements but also ensuring cultural and contextual relevance. In line with views, extension programs must reflect the evolving educational standards and learner needs, incorporating up-to-date research, contemporary case studies, and technologically enhanced learning tools [15].

e. Promoting cultural sensitivity and inclusivity

The feedback indicating a lack of cultural sensitivity in some programs highlights the need for inclusive and diverse educational approaches. This involves incorporating materials and teaching methods that are respectful and reflective of the cultural diversity within the community. As argued, culturally sensitive education is key to ensuring that all participants, regardless of their background, feel valued and understood [13].

f. Fostering parental and community involvement

The study also points to the crucial role of parental and wider community involvement in the success of extension programs. This aligns with advocacy for community engagement in educational initiatives. Programs must therefore develop strategies to involve parents and community leaders, possibly through community forums, collaborative projects, and inclusive decision-making processes. Such involvement not only enhances the relevance of the programs but also facilitates community ownership and sustained impact [9].

g. Aligning with professional and personal development needs

The practical implications of this study extend to aligning extension programs with the professional and personal development needs of participants. As shown in the results, programs that positively impacted self-esteem and confidence were highly rated. Therefore, extension initiatives should incorporate elements that foster personal growth, such as leadership skills, critical thinking, and self-evaluation components. This then entails the utilization of “new learning models and technology, facilitating engagement, and the provision of opportunities for immediate application of knowledge in their work” [17].

3.8.3. Policy implications

The outcomes of the study on community extension programs at Ifugao State University-Potia Campus hold considerable implications for educational policy, particularly in the realm of community engagement and development. These implications offer valuable insights for policymakers seeking to enhance the efficacy and impact of educational outreach programs. Understanding the elements that influence the effectiveness of community extension programs allows policymakers to invest resources effectively, ensuring that projects meet the needs and ambitions of the communities they serve.

a. Strategic planning and resource allocation

The study underscores the need for strategic planning and targeted resource allocation in the development and implementation of community extension programs. It is very notable to emphasize, the effectiveness of these programs is contingent upon their alignment with community needs and dynamics. Policymakers must ensure that program design and resource distribution are informed by thorough community assessments, allowing for a tailored approach that addresses specific local challenges and opportunities [5]. This requires a collaborative effort between educational institutions, government bodies, and community stakeholders to identify and prioritize areas of need.

b. Framework for continuous program evaluation

The findings advocate for the establishment of a comprehensive framework for continuous program evaluation. As indicated by the varied effectiveness across different programs, regular assessment and feedback mechanisms are crucial. Policymakers should develop standards and protocols for ongoing program evaluation, incorporating both quantitative and qualitative metrics. This approach pointed not only ensures program relevance and quality but also facilitates timely adjustments in response to evolving community needs and educational standards [8].

c. Promotion of inclusive and culturally sensitive education

The study highlights the importance of inclusive and culturally sensitive educational practices. Policies should encourage the development of culturally relevant curriculum materials and teaching methods that reflect and respect the diversity of the community. Extension initiatives should be planned with a thorough awareness of local culture, taking into account the community's specific needs and objectives. This would ensure that educational programs are well received, long-lasting, and have a significant impact on community development. In addition, education that acknowledges and incorporates cultural diversity promotes a more inclusive learning environment, essential for the success of community-based programs [13].

d. Encouraging community involvement and partnership

A key policy implication is the promotion of active community involvement and partnership in the planning and execution of extension programs. Policies should facilitate the creation of platforms for community participation, enabling a two-way exchange of knowledge and skills. This aligns with advocacy for community engagement, suggesting that effective community development is achieved through collaborative efforts that leverage local knowledge and expertise [9], [14].

e. Fostering interdisciplinary collaboration

The complex nature of community challenges necessitates interdisciplinary approaches. Policymakers should foster collaboration across different academic disciplines and sectors to address the

multifaceted aspects of community development [18]. This interdisciplinary approach not only broadens the scope and impact of extension programs but also enriches the educational experience for participants.

f. Scaling and replication of effective programs

Finally, the study indicates the potential for scaling and replicating effective extension programs. Policymakers should consider the development of guidelines and frameworks for scaling successful programs to other communities or regions, ensuring adaptability to different contexts [19]. This approach can maximize the reach and impact of extension initiatives, contributing significantly to national development goals. Each community or location may have distinct traits, challenges, and possibilities; hence, policymakers should stress adaptation while scaling projects. Flexibility in program design and implementation also enables modification to meet the unique demands and conditions of many communities. This adaptability means that the essential concepts of successful programs can be maintained while accounting for local variances [19].

3.9. Limitations of the study

A primary limitation lies in the study's geographical and institutional scope. Focused on a single university's extension programs in a specific rural context, the findings may not be entirely generalizable to other regions or types of institutions. This limitation is noteworthy that community extension programs' effectiveness can vary greatly depending on geographic, cultural, and socio-economic contexts. Future research should, therefore, aim to include a more diverse range of institutions, both urban and rural, to ascertain the applicability of these findings across different settings.

Another key limitation is the cross-sectional nature of the study. While the research provides valuable insights into the immediate effects of the extension programs, it does not capture the long-term impact on participants and communities. Longitudinal studies are essential to understand the sustained effects of these programs on individual development, community engagement, and societal change [20]. Future research should focus on tracking the long-term outcomes of program participants to gauge the enduring impact of such educational initiatives. The study predominantly relied on self-reported measures, which can be subject to biases. The reliance on quantitative metrics, while valuable, may not fully capture the nuanced impacts and experiences of participants in these programs [21], [22]. Future studies should employ a more diverse array of evaluation tools, including qualitative methods like in-depth interviews and focus groups, as well as objective performance measures. This would provide a more holistic understanding of the programs' effectiveness. The research predominantly focused on teacher participants, which limits the perspectives gathered. Community extension programs impact a wide range of stakeholders, including students, parents, and community leaders [23]–[25]. Through mutual learning and intimate connections, there is strong communication between the community and higher education through extension initiatives while maintaining freedom on both sides [25]. Future research should aim to include these diverse voices to gain a comprehensive view of the programs' effectiveness and reach, in line with the inclusive approach advocated.

While the study evaluates the outcomes of the extension programs, it does not delve deeply into the specifics of program design and implementation [26]. Understanding the key factors that contribute to the success or failure of these programs is crucial [27], [28]. Future research should focus on dissecting the elements of program design, such as curriculum content, delivery methods, and resource allocation, to determine their impact on effectiveness. Lastly, there is an opportunity for comparative studies that evaluate different models of community extension programs [29], [30]. Such research could provide valuable insights into the most effective approaches and strategies for various community contexts.

4. CONCLUSION

Central to the findings is the affirmation that community extension programs, when effectively implemented, are powerful tools for bridging educational gaps in less urbanized areas. The positive impact on participants' skills, knowledge, self-discipline, and confidence is a testament to the transformative potential of these initiatives. However, the variability in program effectiveness highlights the crucial need for a contextual and responsive approach, tailored to the unique needs and dynamics of each community. The theoretical implications of this study enrich the understanding of how HEIs can act as catalysts for community empowerment. By integrating community needs into educational outreach, these institutions play a critical role in sustainable community development. The practical implications underscore the necessity for continuous program evaluation, participant engagement, and resource relevance, ensuring that these programs remain effective and impactful.

From a policy perspective, this research advocates for strategic planning, resource allocation, continuous program evaluation, and the promotion of inclusive and culturally sensitive education. The encouragement of community involvement and interdisciplinary collaboration in policy formulation can

further enhance the effectiveness of these programs. This study not only highlights the significant contributions of university-led community extension programs in educational and societal development but also calls for a nuanced, adaptable, and collaborative approach in their design and implementation. The findings from this research contribute to a deeper understanding of the role of HEIs in community engagement and provide a foundation for enhancing the effectiveness and reach of community extension programs. As such, they represent a valuable contribution to the ongoing efforts to leverage education as a vehicle for social change and community development.

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BIOGRAPHIES OF AUTHORS



Matronillo Del Mundo Martin is an Associate Professor V and the current Dean of College of Education at Ifugao State University - Potia Campus. He is an active extensionist of the college about the different agenda related on education. He is an accreditor of Accrediting Agency of Chartered Colleges and Universities in the Philippines and evaluator of the Commission on Higher Education-Regional Quality Assurance of Cordillera Admistrative Region (CAR). Dr. Martin's research interest lies on educational pedagogy, classroom management, educational management, information and communication and technology (ICT) and teaching strategies. He can be contacted at email: matt_martin122680@yahoo.com.



Lhea dela Cruz Ildefonso is an assistant professor in Ifugao State University, Potia Campus whose love for extension services inspires her to delve into research regarding the said field. She teaches English language and literature courses and is designated as the Program Chairperson of Master of Arts in Teaching English. Her research interests span a wide range of topics, including language teaching, literature and extension programs. As a member of the academic community, Dr. Ildefonso continues to engage with contemporary issues in pedagogy with aim at contributing valuable insights to the evolving landscape of education. She can be contacted at email: lheaildefonso@gmail.com.